

Air Quality

PERMIT TO CONSTRUCT

Permittee Hess Pumice Products Inc.
Permit Number P-2021.0027
Project ID 62647
Facility ID 071-00003
Facility Location 100 Hess Drive
Malad City, Idaho 83252

Permit Authority

This permit (a) is issued according to the “Rules for the Control of Air Pollution in Idaho” (Rules), IDAPA 58.01.01.200–228; (b) pertains only to emissions of air contaminants regulated by the State of Idaho and to the sources specifically allowed to be constructed or modified by this permit; (c) has been granted on the basis of design information presented with the application; (d) does not affect the title of the premises upon which the equipment is to be located; (e) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (f) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; and (g) in no manner implies or suggests that the Idaho Department of Environmental Quality (DEQ) or its officers, agents, or employees assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment. Changes in design, equipment, or operations may be considered a modification subject to DEQ review in accordance with IDAPA 58.01.01.200–228.

Date Issued December 20, 2021



Shawnee Chen, PE, Permit Writer



Mike Simon, Stationary Source Bureau Chief

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1 Permit Scope

Purpose

- 1.1** This is a modified permit to construct (PTC) to install new process lines to the pumice plant and perlite plant at the facility.

For the Pumice Plant:

- Install a new process line to dry the raw pumice and then ship the pumice out through railcar. This process line will install a propane dryer (Dryer 2, P2), equivalent sized to the existing plant #1 dryer (Dryer 1, P1), with a Dryer 2 associated baghouse (BH13)
- Add a nuisance baghouse (BH14), equivalent to the existing baghouse BH11 of Plant #2, to remove some of excess dust from plant #2 of the Pumice Plant.
- Use the existing baghouse BH3 that was used to control emissions from gravity table GT-2 (transfers fines, fed with sifters) and gravity table GT -4 to control emissions from railcar loadout.

For the Perlite Plant:

- Install a new identical process line with a new propane expander furnace (Expander 2), equivalent to the existing expander (Expander 1), with an Expander 2 associated baghouse (BH16). Expander 2 has its own preheater. The preheater emissions are controlled by BH16.
- Add a nuisance baghouse (BH19), equivalent to the existing baghouse BH11, to the existing process line.

All currently permitted sources and associated emissions remain unchanged. The proposed modification includes five new emissions points: Dryer 2 P2 and Dryer 2 associated baghouse BH13, pumice plant nuisance baghouse BH14, Expander 2 with a preheater & baghouse BH16, and perlite plant nuisance baghouse BH19. The proposed modification will use the existing baghouse BH3 that was used to control emissions from gravity table GT-2 and gravity table GT -4 to control emissions from railcar loadout.

[12/20/2021]

- 1.2** Those permit conditions that have been modified or revised by this permitting action are identified by the permit issue date citation located directly under the permit condition and on the right-hand margin.

- 1.3** This PTC replaces Permit to Construct No. P-050307, issued on August 9, 2005.

[12/20/2021]

Regulated Sources

Table 1.1 lists all sources of regulated emissions in this permit.

Table 1.1 Regulated Sources

Permit Section	Sources	Control Equipment
Pumice Plant, Plant #1		
2,3	Conveyance Transfer pt 1 (TRANS1)	partially enclosed
	Conveyance Transfer pt 2 (TRANS2)	partially enclosed
	Dryer 1 Rotary Dryer (P1) Manufacturer: Bartlett Snow Model: ND Burner Model: Genco UF25 Manufacture Date: 5/18/1990 Heat input rating: 25 MMBtu/hr Max. production: 24 T/hr Fuel: propane Proposed limit: 24 T/hr for P1 Fuel limits: 216 gal/hr, 1,892,160 gal/yr	Dryer 1 Baghouse (BH1) Two baghouses in parallel venting through one stack Manufacturer: Hosokawa Mikropul Model: 296S-10-20-TRH Type: Reverse Jet PM ₁₀ control efficiency: 99.998 %
	Cyclone (P4)	
	Grinding and sizing equipment, including rod mills and sifters	Process East General Baghouse (BH2) Manufacturer: Hosokawa Mikropul Model: 144S-10-20-TRH Type: Reverse Jet PM ₁₀ control efficiency: 99.998 %
	Railcar loadout	Railcar loadout baghouse BH3 (changed) Manufacturer: Hosokawa Mikropul Model: 80S-8-20-C Type: Reverse Jet PM ₁₀ control efficiency: 99.998 %
	Gravity table GT-5 Gravity table GT-6	Gravity Tables 5 and 6 Baghouse (BH4) Manufacturer: Hosokawa Mikropul Model: 100S-10-20-C Type: Reverse Jet PM ₁₀ control efficiency: 99.998 %
2,3	Blending and packaging equipment	Process West General Baghouse (BH6) Manufacturer: Hosokawa Mikropul Model: 144S-10-20-TR Type: Reverse Jet PM ₁₀ control efficiency: 99.998 %
	West Hummer Screen East Hummer Screen	Hummer Baghouse (BH7) Manufacturer: Hosokawa Mikropul Model: 180S-10-20-TRH Type: Reverse Jet PM ₁₀ control efficiency: 99.998 %

Permit Section	Sources	Control Equipment
2,3	Gravity Tables 7, 8 & 9 Baghouse	Gravity Tables 7, 8 & 9 Baghouse (BH8) Manufacturer: Hosokawa Mikropul Model: 180S-10-20-TRH Type: Reverse Jet PM ₁₀ control efficiency: 99.998 %
	Bin Baghouse (BH15)	BH15
Pumice Plant, Plant #2		
2,3	Dryer 3 LHM fluid bed dryer (P3) Manufacturer: Carmen Model: FBP-202 Burner Model: ND Manufacture Date: ND Heat input rating: 2 MMBtu/hr Max. production: 20 T/hr Fuel: propane	LHM Dryer Baghouse (BH9) Manufacturer: Hosokawa Mikropul Model: 100S-10-20-TRH Type: Reverse Jet PM ₁₀ control efficiency: 99.998 %
	Enclosed rod mills (P-1) Enclosed screw conveyor (TR-27) Surge bin (ST-13) Enclosed screw conveyor (TR-28)	
	Storage equipment ST-7 Transfer area TR-17 Transfer area TR-18 Three storage bins ST-10, 11, & 12	LHM Bin Vent Baghouse (BH5) Manufacturer: Hosokawa Mikropul Model: 64S-8-20-C Type: Reverse Jet PM ₁₀ control efficiency: 99.998 %
2,3	Grinding and sizing including mills and sifters	LHM West General Baghouse (BH11) Manufacturer: Hosokawa Mikropul Model: 144S-10-20-TRH Type: Reverse Jet PM ₁₀ control efficiency: 99.998 %
	Blending and Packaging	LHM East General Baghouse (BH12) Manufacturer: Hosokawa Mikropul Model: 144S-10-20-TRH Type: Reverse Jet PM ₁₀ control efficiency: 99.998 %
	Plant #2 Nuisance baghouse	Plant #2 Nuisance baghouse (BH14, new) Manufacturer: Mikro-Pulsaire Model: 144S-10-20 TRH Type: Reverse Jet PM ₁₀ control efficiency: 99.9%

Permit Section	Sources	Control Equipment
Pumice Plant, the new dryer 2 line		
2,3	<p>Dryer 2 Propane Combustion (P2, new)</p> <p>Manufacturer: To Be Determined Model: 25 Burner Model: ND Manufacture Date: ND Rated heat input rating: 14 MMBtu/hr, 216 gal/hr, 1,892,160 gal/yr Max. production: 24 T/hr Fuel: propane</p> <p>Proposed limit: 24 T/hr for P 216 gal/hr, 1,892,160 gal/yr</p>	<p>Dryer 2 Baghouse (BH13, new)</p> <p>Manufacturer: Mikro-Pulsaire Model: 296S-10-20-TRH</p> <p>Type: Reverse Jet PM₁₀ control efficiency: 99.9%</p>
Perlite Plant		
2,3	<p>Expander Furnace 1</p> <p>Manufacturer/Model: Ineon Model H-22 Rated Heat Input: 7 MMBtu/hr Max. production: 2.5 T/hr Fuel: propane</p> <p>Product Collector Cyclone (Coarse Product)</p> <p>Cooler Separator</p> <p>Coarse Product Packer</p> <p>Product Collector Cyclone (Fine Product)</p> <p>Fine Product Packer</p> <p>Baghouse # 18 Fines Packer</p>	<p>Perlite Baghouse (BH17)</p> <p>Manufacturer: Mikro-Pulsaire, manufactured by Incon</p> <p>Model: 144S-10-TR</p> <p>Type: Reverse Jet</p> <p>Ratings: 99.8% efficiency or 0.008 grains/dscf, manufacturer guaranteed</p>
	<p>Ore Unloading (truck dumping onto Unloading Conveyor)</p> <p>Ore Unloading Conveyor</p> <p>Bucket Elevator to Ore Storage Bins</p> <p>Ore Storage Bins (openings, vents)</p> <p>Reclaim Conveyor</p> <p>Bucket Elevator to Surge Bin</p> <p>Surge Bin (openings, vents)</p>	<p>Perlite Baghouse (BH18) (Ore Unloading Baghouse or Perlite Bin baghouse)</p> <p>Manufacturer: Mikro-Pulsaire Model: 9N6 Type: Reverse Jet PM₁₀ control efficiency: 99.8 %</p>
2,3	<p>Preheater Prior to Expander 2</p> <p>Manufacturer: Incon Model: PBP Burner Model: Maxon Kinemax G Manufacture Date: 2020 Heat input rating: 0.925 MMBtu/hr, 9.8 gal/hr, 73,382 gal/yr Fuel: propane Direct heated</p>	<p>Expander 2 & Baghouse (BH16, new)</p> <p>Manufacturer: Incon Model: 143R10 198R8 Type: Reverse Jet PM₁₀ emission concentration: 0.008 gr/dscf</p>

Permit Section	Sources	Control Equipment
	Expander 2 & Baghouse (Expander Furnace and associated process) Manufacturer: Incon Model: I18 Burner Model: ND Manufacture Date: ND Heat input rating: 6.5 MMBtu/hr, 60 gal/hr, 526,000 gal/yr Max. production: 1.8 T/hr Fuel: propane	Expander 2 & Baghouse (BH16, new) Manufacturer: Incon Model: 143R10 198R8 Type: Reverse Jet PM ₁₀ emission concentration: 0.008 gr/dscf
	Perlite nuisance Baghouse	Perlite nuisance Baghouse (BH19, new) Manufacturer: Mikro-Pulsaire Model: 144S-10-20 TRH Type: Reverse Jet PM ₁₀ control efficiency: 99.9%

¹ Refer to modeling memo for emissions point information.

² Information taken from the application, 11/5/2021 application supplement, and previous PTCs

[12/20/2021]

2 Pumice and Perlite Production Facility

2.1 Process Description

Hess Pumice Products Inc. is a pumice and perlite production facility.

PUMICE PLANT

The existing pumice mill receives pumice mined at Wrights Creek Mine which is trucked to the processing plant. The material is loaded directly into the hoppers, which feed the processing plant. This plant feed material has about 18% moisture. There are two pumice mills at Hess Pumice. The original mill processes the raw pumice from the mine. The newer mill processes Low Heavies Mineral (LHM) pumice from the original mill. The material is processed using several types of processing equipment: scalping screens, gravity tables, rod mills, baghouses, sifters, and air separators. The scalping screens are multi-decked screens which perform the initial size separation of the pumice. The gravity tables are used to remove the non-desirable material (heavies), which is denser than the pumice product. LHM passes from the gravity tables to additional processing. The baghouses, as well as controlling emissions from the plant, also serve as processes by recycling the fine material back to the plant. The sifters and air separators perform product refinement as well as the final grading of the pumice.

All the processes are enclosed, and except for the baghouses, are contained in the main building. Each gravity table has a small open face, but these are maintained under negative pressure so that no emissions escape from the opening. The material is conveyed within the plant using belts, screws, elevators, and gravity feed. All these conveyors and transfer points are enclosed and vented to baghouses. This venting also captures emissions from the processes, which conveyors are serving.

This permitting action will allow the facility to add a new line with propane-fired dryer P2 to dry the raw pumice and then ship the pumice out through railcar. According to the flow diagram and revised emissions inventory spreadsheet provided to DEQ on 8/25/2021, this new line also includes new hoppers that are fully enclosed.

PERLITE PLANT

The perlite mill uses sized and dried perlite ore which is delivered to the facility in self unloading belt trailers. The ore is discharged from the trailers onto a conveyor belt that feeds into an elevating bucket elevator.

The ore then gravity feeds into one of two storage bins. The ore is then control fed out of the bottom of the storage bins, onto a conveyor belt that feeds it into an elevating bucket elevator to a small surge bin. From there, the ore is fed onto a vibrating screen. Dust from unloading onto conveyor belts and from transferring to and from storage bins are vented through a baghouse (BH18) before being discharged to the atmosphere. Next, the ore is gravity fed into a preheater, prior to entering the expander 2 furnace.

The expander furnaces are fired with propane and maintain a temperature of approximately 1,700°F. The flame softens the ore, and the internal moisture expands the ore 10-20 times the original size. The expanded perlite is then fed into the primary product collector, which is a cyclone that separates the fines from the expanded perlite product. The coarse expanded product then gravity feeds into an aftercooler prior to a surge bin for packaging. The fines are carried to the baghouse (BH17), which separates the perlite fines from the air stream that is discharged to the atmosphere via the baghouse. The perlite fines are then ready for packaging. Emissions from

the furnace and packaging are controlled by the same baghouse (BH17) that separates the perlite fines from the air stream.

This permitting action will allow the facility to install a new identical process line with a new identical expander furnace and a new baghouse (BH16) identical to the existing baghouse BH17.

[12/20/2021]

2.2 Control Device Descriptions

Refer to Table 1.1 for details.

[12/20/2021]

Emission Limits

2.3 Emission Limits

The emissions from the pumice and perlite production facility stacks shall not exceed any corresponding emissions rate limits listed in Table 2.1.

Table 2.1 Pumice and Perlite Production Facility Emission Limits^(a)

Sources	Description	PM _{2.5}		PM ₁₀		SO ₂		NO _x		CO		VOC	
		lb/hr ^e	T/yr	lb/hr ^e	T/yr	lb/hr	T/yr	lb/hr ^f	T/yr	lb/hr	T/yr	lb/hr	T/yr
BH1_P1	Dryer 1 Baghouse	0.40	1.76	0.98	4.30	0.03	0.11	2.81	12.30	1.62	7.10	0.22	0.95
BH2	Process East General BH	0.13	0.55	0.42	1.84								
BH3	Railcar loadout BH	0.13	0.55	0.42	1.84								
BH4	Gravity Tables #5 & #6 BH	0.09	0.38	0.29	1.27								
BH5	LHM Bin Vent BH	0.03	0.15	0.11	0.48								
BH6	Process West General BH	0.13	0.55	0.42	1.84								
BH7	Hummer Baghouse	0.16	0.71	0.54	2.37								
BH8	GT #7, 8 & 9 Baghouse	0.15	0.67	0.51	2.23								
BH9_P3	LHM Dryer Baghouse	0.10	0.442	0.311	1.36	0.00	0.01	0.20	0.85	0.11	0.49	0.02	0.07
BH11	LHM West General BH	0.15	0.66	0.50	2.19								
BH12	LHM East General BH	0.15	0.66	0.50	2.19								
BH15	Bin Baghouse	0.01	0.04	0.03	0.13								
BH17	Expander 1 & BH	0.21	0.951	0.598	2.73	7.21E-03	0.03	0.78	3.42	0.45	1.97	0.06	0.26
BH18	Perlite Bin baghouse	0.001	0.003	0.002	0.01								
BH13_P2	Dryer 2 Baghouse	0.37	1.61	0.87	3.82	0.03	0.11	2.81	12.30	1.62	7.10	0.22	0.95
BH14	Plant #1 Nuisance	0.17	0.77	0.58	2.54								
BH16	Preheater, Expander 2 & BH	0.19	0.83	0.52	2.28	8.39E-03	0.04	0.91	3.90	0.52	2.25	0.07	0.30
BH19	Perlite nuisance Baghouse	0.17	0.77	0.58	2.54								
TRANS1	Conveyance Transfer pt 1	3.12E-04	1.37E-03	1.10E-03	4.84E-03								
TRANS2	Conveyance Transfer pt 2	3.12E-04	1.37E-03	1.10E-03	4.84E-03								

- In absence of any other credible evidence, compliance is ensured by complying with permit operating, monitoring, and record keeping requirements.
- Particulate matter with an aerodynamic diameter less than or equal to a nominal two point five (2.5) and ten (10) micrometers, including condensable particulate as defined in IDAPA 58.01.01.006.
- Pounds per hour, as determined by a test method prescribed by IDAPA 58.01.01.157, EPA reference test method, continuous emission monitoring system (CEMS) data, or DEQ-approved alternative.
- Tons per any consecutive 12-calendar month period.
- Based on a 24-hr average period for PM_{2.5} and PM₁₀
- Hourly basis

[12/20/2021]

2.4 Visible Emissions at Property Boundary

Fugitive emissions shall not be observed leaving the property boundary for a period or periods aggregating more than three minutes in any 60-minute period. Visible emissions shall be determined by Method 22, 40 CFR Part 60, Appendix A; or a DEQ-approved alternative method.

2.5 Particulate Matter Grain Loading from Fuel Burning Equipment

The permittee shall not discharge to the atmosphere from any fuel-burning equipment PM in excess of 0.015 grains per dry standard cubic foot (gr/dscf) of effluent gas corrected to 3% oxygen by volume for gas in accordance with IDAPA 58.01.01.677.

[12/20/2021]

Operating Requirements

2.6 Reasonable Control of Fugitive Emissions

As required in IDAPA 58.0J.01.651, all reasonable precautions shall be taken to prevent PM from becoming airborne. In determining what is reasonable, considerations will be given to factors such as the proximity of dust-emitting operations to human habitations and/or activities and atmospheric conditions which might affect the movement of PM. Some of the reasonable precautions include, but are not limited to, the following:

- Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of lands
- Application, where practical, of asphalt, water or suitable chemicals to, or covering of, dirt roads, material stockpiles, and other surfaces which can create dust
- Installation and use, where practical, of hoods, fans, and fabric filters or equivalent systems to enclose and vent the handling of dusty materials. Adequate containment methods should be employed during sandblasting or other operations
- Covering, where practical, of open-bodied trucks transporting materials likely to give rise to airborne dusts
- Paving of roadways and their maintenance in a clean condition, where practical, or
- Prompt removal of earth or other stored material from streets, where practical.

2.7 Throughput Limits

The throughput of the following sources shall be limited as follows:

2.7.1 The throughput to the P1 dryer shall not exceed 24 dry tons per hour, based on a 24-hr averaging period.

[12/20/2021]

2.7.2 The throughput to the P3 dryer shall not exceed 20 dry tons per hour, based on a 24-hr averaging period.

[12/20/2021]

2.7.3 The output from the perlite expander furnace 1 shall not exceed 36 dry tons per day.

2.7.4 The throughput to the P2 dryer shall not exceed 24 dry tons per hour, based on a 24-hr averaging period. [12/20/2021]

2.7.5 The output from the perlite expander furnace 2 shall not exceed 36 dry tons per day. [12/20/2021]

2.8 Fuel Consumption

2.8.1 Fuel Type

Only propane fuel shall be used in the P1 dryer, P2 dryer, P3 dryer, the perlite expander furnace 1, and perlite expander furnace 2.

[12/20/2021]

2.8.2 Fuel Usage limits

- Propane fuel consumption shall not exceed 216 gallons per hour for the P1 dryer, on hourly basis.
- Propane fuel consumption shall not exceed 216 gallons per hour for the P2 dryer, on hourly basis.
- Propane fuel consumption shall not exceed 553 cubic feet (15 gallons) per hour, on hourly basis and shall not exceed 4,818,000 cubic feet (130,432 gallons) during any consecutive 12-month period for P3 dryer.
- Propane fuel consumption shall not exceed 60 gallons per hour for perlite expander furnace 1, on hourly basis.
- Propane fuel consumption shall not exceed 60 gallons per hour for perlite expander furnace 2, on hourly basis.

[12/20/2021]

2.9 Baghouse Operation

2.9.1 The permittee shall install and operate baghouses as specified in Table 1.1 of the permit to control PM/PM₁₀/PM_{2.5} emissions from the emissions sources listed in Table 1.1 of the permit.

2.9.2 Baghouse/Filter System Procedures

Within 60 days of the permit issuance, the permittee shall have developed a Baghouse/Filter System Procedures document for the inspection and operation of the baghouses/filter system which controls emissions from the emissions sources listed in Table 1.1 of the permit. The Baghouse/Filter System Procedures document shall be a permittee developed document independent of the manufacturer supplied operating manual but may include summaries of procedures included in the manufacturer supplied operating manual.

The Baghouse/Filter System Procedures document shall describe the procedures that will be followed to comply with the General Provisions and shall contain quarterly see-no-see visible emissions inspections of the baghouse. The inspection shall occur during daylight hours and under normal operating conditions.

The Baghouse/Filter System Procedures document shall also include a schedule and procedures for corrective action that will be taken if visible emissions are present from the baghouse at anytime. At a minimum the document shall include:

- procedures to determine if bags or cartridges are ruptured; and
- procedures to determine if bags or cartridges are not appropriately secured in place.

The Permittee shall maintain records of the results of each baghouse/filter system inspections in accordance with the General Provisions of this permit. The records shall include, but not be limited to, the following:

- Date and time of inspection,
- Equipment inspected (e.g., exterior housing of baghouse, fan motor, auger, inlet air ducting),
- Description of whether visible emissions were present, and if visible emissions were present a description of the corrective action that was taken, and
- Date corrective action was taken.

The Baghouse/Filter System Procedures document shall be submitted to DEQ within 60 days of the permit issuance for review and comment and shall contain a certification by a responsible official. Any changes to the Baghouse/Filter System Procedures document shall be submitted within 15 days of the change.

The Baghouse/Filter System Procedures document shall also remain on site at all times and shall be made available to DEQ representatives upon request.

The operating, monitoring and recordkeeping requirements specified in the Baghouse/Filter System Procedures document are incorporated by reference to this permit and are enforceable permit conditions.

2.9.3 Baghouse Emissions Concentration Requirement

The permittee shall follow manufacturer's operation requirements to ensure that the baghouses maintain the following emissions concentrations:

Pumice Plant

- The PM₁₀ emissions concentration of Dryer 2 baghouse (BH13) shall not exceed 0.007 gr/dscf.
- The PM₁₀ emissions concentration of Pumice Plant Plant #2 Nuisance baghouse (BH14) shall not exceed 0.007 gr/dscf.

Perlite Plant

- The PM₁₀ emissions concentration of Expander Baghouse 2 (BH16) shall not exceed 0.008 gr/dscf.
- The PM₁₀ emissions concentration of Perlite Plant nuisance baghouse (BH19) shall not exceed 0.007 gr/dscf.

[12/20/2021]

Monitoring and Recordkeeping Requirements

2.10 Recordkeeping Requirements

The permittee shall monitor and record the following information to demonstrate compliance of operating limits in the permit. The records shall remain onsite for a minimum period of five years and shall be made available to DEQ representatives upon request.

[12/20/2021]

2.11 Throughput Monitoring

- 2.11.1 Throughput to the P1 dryer in dry tons per hour, based on 24-hour averaging period.
- 2.11.2 Throughput to the P2 dryer in dry tons per hour, based on 24-hour averaging period. [12/20/2021]
- 2.11.3 Throughput to the P3 dryer in dry tons per hour, based on 24-hour averaging period.
- 2.11.4 When the perlite expander furnace 1 is operated, the output from the furnace 1 shall be recorded daily in units of dry tons per day.
- 2.11.5 When the perlite expander furnace 2 is operated, the output from the furnace 2 shall be recorded daily in units of dry tons per day. [12/20/2021]

2.12 Fuel Usage Monitoring

- 2.12.1 Propane fuel consumption through each dryer (i.e., P1 Dryer, P2 Dryer) in gallons per hour, on an hourly basis.
- 2.12.2 Propane fuel consumption through P3 Dryer in gallons (or cubic feet) per hour, on an hourly basis and in gallons (or cubic feet) per year on any consecutive 12-month period.
- 2.12.3 Propane fuel consumption through each perlite expander furnace in gallons per hour, on an hourly basis. [12/20/2021]

Performance Testing Requirements

2.13 PM_{2.5} and PM₁₀ Performance Test

Within 180 days of P2 dryer startup, the permittee shall conduct a performance test on P2 dryer baghouse (BH13) to demonstrate compliance with the PM_{2.5} and PM₁₀ emissions limits in Permit Condition 2.3.

The permittee shall test in accordance with IDAPA 58.01.01.157 and the conditions of this permit including the operating requirements for P2 dryer baghouse (e.g., as specified in Baghouse Operation Permit Condition) and in accordance with the General Provisions of this permit which contain notification, testing procedures and reporting requirements.

The permittee shall monitor and record the following during the performance test:

- The throughput to the P2 dryer in tons per hour
- The propane usage of the P2 dryer in gal/hr
- Visible emissions of the P2 dryer Baghouse (BH13) determined in accordance with IDAPA 58.01.01.625.
- Pressure drop across the baghouse once each 15 minutes during the performance test.

The source test shall be conducted under “worst case normal” conditions as required by IDAPA 58.01.01.157, the General Provisions of this permit, and the source test report shall contain documentation that the test was conducted under these conditions.

Reporting Requirements

2.14 Excess Emissions

The permittee shall comply with the excess emissions requirements under IDAPA 58.01.01.130-136 whenever an exceedance of any emissions limit in Section I of this permit is caused by startup, shutdown, scheduled maintenance, upset or breakdown of any emissions unit or which is caused by the implementation of any safety measure. When excess emissions are caused by upset or break down conditions, or implementation of a safety measure, the requirements of IDAPA 58.01.01.134 shall be complied with. This includes notifying DEQ as soon as reasonably possible, but no later than 24 hours after the event, unless the owner or operator demonstrates to DEQ's satisfaction that the longer reporting period was necessary. The notification shall contain the date, duration, and description of the exceedance and the procedures taken to remedy the cause of the exceedance.

2.15 Performance Test Protocol

Prior to conducting any emission test, the permittee is strongly encouraged to submit in writing to the DEQ, at least 30 days in advance, a performance test protocol in accordance with IDAPA 58.01.01.157.01.a.

2.16 Performance Test Report

In accordance with IDAPA 58.01.01.157.04, the permittee shall submit a written report of the performance test results to the DEQ within 30 days of test completion.

2.17 Certification of Documents

All documents, including, but not limited to, application forms for permits to construct, monitoring data, supporting information, requests for confidential treatment, testing reports, and compliance certifications submitted to DEQ shall contain a certification by a responsible official in accordance with IDAPA 58.01.01.123. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

3 40 CFR 60 Subpart OOO -Standards of Performance for Nonmetallic Mineral Processing Plants

3.1 40 CFR 60.670 Applicability and designation of affected facility

This subpart is applicable to the following affected facilities in fixed nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station in accordance with 40 CFR 60.670(a)(1).

An affected facility as listed above that commences construction, modification, or reconstruction after August 31, 1983, is subject to the requirements of this part in accordance with 40 CFR 60.670(e).

[12/20/2021]

3.2 40 CFR 60.671 Definitions

3.3 Fugitive emission means particulate matter that is not collected by a capture system and is released to the atmosphere at the point of generation.

Nonmetallic mineral means any of the following minerals or any mixture of which the majority is any of the following minerals:

- Pumice
- Perlite

[12/20/2021]

3.4 40 CFR 60.672 Standard for Particulate Matter (PM)

- In accordance with 40 CFR 60.672(a), affected facilities must meet the stack emission limits and compliance requirements in Table 2 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR 60.8. The requirements in Table 2 of this subpart apply for affected facilities with capture systems used to capture and transport particulate matter to a control device.

Table 2 to Subpart OOO of Part 60 - Stack Emission Limits for Affected Facilities with Capture Systems

For * * *	The owner or operator must meet a PM limit of * * *	And the owner or operator must meet an opacity limit of * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in §§ 60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008	0.05 g/dscm (0.022 gr/dscf) ^a	7 percent for dry control devices	An initial performance test according to 40 CFR 60.8 and 40 CFR 60.675

For * * *	The owner or operator must meet a PM limit of * * *	And the owner or operator must meet an opacity limit of * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in §§ 60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	0.032 g/dscm (0.014 gr/dscf) ^a	Not applicable (except for individual enclosed storage bins) 7 percent for dry control devices on individual enclosed storage bins	An initial performance test according to 40 CFR 60.8 of this part and 40 CFR 60.675 of this subpart

^a) Exceptions to the PM limit apply for individual enclosed storage bins and other equipment. See § 60.672(d) through (f)

- In accordance with 40 CFR 60.672(b), affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of this subpart within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR 60.11. The requirements in Table 3 of this subpart apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.

Table 3 to Subpart 60.672 of Part 60 - Fugitive Emission Limits

For * * *	The owner or operator must meet the following fugitive emissions limit for grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility (as defined in §§ 60.670 and 60.671) * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in §§ 60.670 and 60.671) that commenced construction, modification, or reconstruction after August 31, 1983 but before April 22, 2008	10 percent opacity	An initial performance test according to 40 CFR 60.8 and 40 CFR 60.675
Affected facilities (as defined in §§ 60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	7 percent opacity	An initial performance test according to 40 CFR 60.8 of this part and 40 CFR 60.675 of this subpart

- In accordance with 40 CFR 60.672(d), truck dumping of nonmetallic minerals into any screening operation, feed hopper, or crusher is exempt from the requirements of this section.
- In accordance with 40 CFR 60.672(e), if any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in paragraphs (a) and (b) of 40 CFR 60.672, or the building enclosing the affected facility or facilities must comply with the following emission limits:
 - (1) Fugitive emissions from the building openings (except for vents as defined in § 60.671) must not exceed 7 percent opacity; and
 - (2) Vents (as defined in 40 CFR 60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of this subpart.

- In accordance with 40 CFR 60.672(f), any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of this subpart but must meet the applicable stack opacity limit and compliance requirements in Table 2 of this subpart. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

[12/20/2021]

3.5 40 CFR 60.674 Monitoring of Operations

In accordance with 40 CFR 60.674(c), the owner or operator of any affected facility for which construction, modification, or reconstruction commenced on or after April 22, 2008, that uses a baghouse to control emissions must conduct quarterly 30-minute visible emissions inspections using EPA Method 22 (40 CFR part 60, appendix A-7). The Method 22 (40 CFR part 60, appendix A-7) test shall be conducted while the baghouse is operating. The test is successful if no visible emissions are observed. If any visible emissions are observed, the owner or operator of the affected facility must initiate corrective action within 24 hours to return the baghouse to normal operation. The owner or operator must record each Method 22 (40 CFR part 60, appendix A-7) test, including the date and any corrective actions taken, in the logbook required under 40 CFR 60.676(b). The owner or operator of the affected facility may establish a different baghouse-specific success level for the visible emissions test (other than no visible emissions) by conducting a PM performance test according to 40 CFR 60.675(b) simultaneously with a Method 22 (40 CFR part 60, appendix A-7) to determine what constitutes normal visible emissions from that affected facility's baghouse when it is in compliance with the applicable PM concentration limit in Table 2 of this subpart. The revised visible emissions success level must be incorporated into the permit for the affected facility.

[12/20/2021]

3.6 40 CFR 60.675 Test methods and procedures

- In accordance with 40 CFR 60.675(a), in conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendices A-1 through A-7 of 40 CFR 60 or other methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in paragraph (e) of 40 CFR 60.675.

- In accordance with 40 CFR 60.675(b), the owner or operator shall determine compliance with the PM standards in 40 CFR 60.672(a) as follows:

(1) Method 5 of appendix A-3 of this part or Method 17 of appendix A-6 of 40 CFR 60 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5 (40 CFR part 60, appendix A-3), if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121 °C (250 °F), to prevent water condensation on the filter.

(2) Method 9 of appendix A-4 of 40 CFR 60 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

- In accordance with 40 CFR 60.675(c)

(1) In determining compliance with the particulate matter standards in 40 CFR 60.672(b) or

60.672(e)(1), the owner or operator shall use Method 9 of appendix A-4 of 40 CFR 60 and the procedures in 40 CFR 60.11, with the following additions:

(i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

(ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9 of appendix A-4 of 40 CFR 60, Section 2.1) must be followed.

(iii) For affected facilities using wet dust suppression for particulate matter control, a visible mist is sometimes generated by the spray. The water mist must not be confused with particulate matter emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

(2)

(i) In determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under 40 CFR 60.672(f) of this subpart, using Method 9 (40 CFR part 60, appendix A-4), the duration of the Method 9 (40 CFR part 60, appendix A-4) observations shall be 1 hour (ten 6-minute averages).

(ii) The duration of the Method 9 (40 CFR part 60, appendix A-4) observations may be reduced to the duration the affected facility operates (but not less than 30 minutes) for baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time.

(3) When determining compliance with the fugitive emissions standard for any affected facility described under 40 CFR 60.672(b) or 60.672(e)(1), the duration of the Method 9 (40 CFR part 60, appendix A-4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of this subpart must be based on the average of the five 6-minute averages.

- In accordance with 40 CFR 60.675(d), to demonstrate compliance with the fugitive emission limits for buildings specified in 40 CFR 60.672(e)(1), the owner or operator must complete the testing specified in 40 CFR 60.675(d)(1) and (2). Performance tests must be conducted while all affected facilities inside the building are operating.

(1) If the building encloses any affected facility that commences construction, modification, or reconstruction on or after April 22, 2008, the owner or operator of the affected facility must conduct an initial Method 9 (40 CFR part 60, appendix A-4) performance test according to this section and 40 CFR 60.11.

(2) If the building encloses only affected facilities that commenced construction, modification, or reconstruction before April 22, 2008, and the owner or operator has previously conducted an initial Method 22 (40 CFR part 60, appendix A -7) performance test showing zero visible emissions, then the owner or operator has demonstrated compliance with the opacity limit in 40CFR 60.672(e)(1).

- In accordance with 40 CFR 60.675(e), the owner or operator may use the alternatives specified in 40 CFR 60.675(e) to the reference methods and procedures specified in 40 CFR 60.675. (Note: details are not spelled out here; refer to the regulation for more details.)
- In accordance with 40 CFR 60.675(g), for performance tests involving only Method 9 (40 CFR part 60 appendix A-4) testing, the owner or operator may reduce the 30-day advance notification of performance test in 40 CFR 60.7(a)(6) and 60.8(d) to a 7-day advance notification.
- In accordance with 40 CFR 60.675(i), if the initial performance test date for an affected facility falls during a seasonal shut down (as defined in 40CFR 60.671) of the affected facility, then with approval from the permitting authority, the owner or operator may postpone the initial performance test until no later than 60 calendar days after resuming operation of the affected facility.

[12/20/2021]

3.7 40 CFR 60.676 Reporting and recordkeeping

- In accordance with 40 CFR 60.676(b)
 - (1) Owners or operators of affected facilities (as defined in 40 CFR 60.670 and 60.671) for which construction, modification, or reconstruction commenced on or after April 22, 2008, must record each periodic inspection required under 40 CFR 60.674(b) or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Administrator upon request.
- In accordance with 40 CFR 60.676(f), the owner or operator of any affected facility shall submit written reports of the results of all performance tests conducted to demonstrate compliance with the standards set forth in 40 CFR 60.672, including reports of opacity observations made using Method 9 (40 CFR part 60, appendix A-4) to demonstrate compliance with 40 CFR 60.672(b), (e) and (f).
- In accordance with 40 CFR 60.676(h), the subpart A requirement under 40 CFR 60.7(a)(1) for notification of the date construction or reconstruction commenced is waived for affected facilities under this subpart.
- In accordance with 40 CFR 60.676(i), a notification of the actual date of initial startup of each affected facility shall be submitted to the Administrator (i.e., DEQ).

(1) For a combination of affected facilities in a production line that begin actual initial startup on the same day, a single notification of startup may be submitted by the owner or operator to the Administrator. The notification shall be post marked within 15 days after such date and shall include a description of each affected facility, equipment manufacturer, and serial number of the equipment, if available.

[12/20/2021]

- ### **3.8**
- The permittee shall comply with the requirements of 40 CFR 60 Subpart A except that are listed in Table 1 to Subpart OOO of Part 60 - Exceptions to Applicability of Subpart A to Subpart OOO.

[12/20/2021]

3.9 Should there be any conflict between the requirements of the permit condition and the requirements of 40 CFR 60 Subpart OOO, the requirements of 40 CFR 60 Subpart OOO shall govern, including any amendments to that regulation.

[12/20/2021]

4 General Provisions

General Compliance

- 4.1 The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the “Rules for the Control of Air Pollution in Idaho.” The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit, the “Rules for the Control of Air Pollution in Idaho,” and the Environmental Protection and Health Act (Idaho Code §39-101, et seq).
- [Idaho Code §39-101, et seq.]
- 4.2 The permittee shall at all times (except as provided in the “Rules for the Control of Air Pollution in Idaho”) maintain in good working order and operate as efficiently as practicable all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.
- [IDAPA 58.01.01.211, 5/1/1994]
- 4.3 Nothing in this permit is intended to relieve or exempt the permittee from the responsibility to comply with all applicable local, state, or federal statutes, rules, and regulations.
- [IDAPA 58.01.01.212.01, 5/1/1994]

Inspection and Entry

- 4.4 Upon presentation of credentials, the permittee shall allow DEQ or an authorized representative of DEQ to do the following:
- Enter upon the permittee’s premises where an emissions source is located, emissions-related activity is conducted, or where records are kept under conditions of this permit;
 - Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;
 - Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
 - As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.
- [Idaho Code §39-108]

Construction and Operation Notification

- 4.5 This permit shall expire if construction has not begun within two years of its issue date, or if construction is suspended for one year.
- [IDAPA 58.01.01.211.02, 5/1/1994]
- 4.6 The permittee shall furnish DEQ written notifications as follows:
- A notification of the date of initiation of construction, within five working days after occurrence; except in the case where pre-permit construction approval has been granted then notification shall be made within five working days after occurrence or within five working days after permit issuance whichever is later;

- A notification of the date of any suspension of construction, if such suspension lasts for one year or more; and
- A notification of the initial date of achieving the maximum production rate, within five working days after occurrence - production rate and date.

[IDAPA 58.01.01.211.01, 5/1/1994]

- A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date; and
- A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date.

[IDAPA 58.01.01.211.03, 5/1/1994]

Performance Testing

4.7 If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

4.8 All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

4.9 Within 60 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157, 4/5/2000 and 4/11/2015]

Monitoring and Recordkeeping

4.10 The permittee shall maintain sufficient records to ensure compliance with all of the terms and conditions of this permit. Monitoring records shall include, but not be limited to, the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.211, 5/1/1994]

Excess Emissions

- 4.11** The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130–136 for excess emissions due to start-up, shut-down, scheduled maintenance, safety measures, upsets, and breakdowns.

[IDAPA 58.01.01.130–136, 4/5/2000]

Certification

- 4.12** All documents submitted to DEQ—including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification—shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/1994]

False Statements

- 4.13** No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/1998]

Tampering

- 4.14** No person shall knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/1998]

Transferability

- 4.15** This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.06.

[IDAPA 58.01.01.209.06, 4/11/2006]

Severability

- 4.16** The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[IDAPA 58.01.01.211, 5/1/1994]